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STATISTICAL BULLETIN
Metropolitan Life Insurance Co.

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NINETEEN TWENTY-SEVEN WILL BE A RECORD HEALTH YEAR

Even before the close of the year 1927 and before the exact deathrates can be known, it is possible to announce that there will be three outstanding items in the mortality record of the year. Two of them are definitely favorable; one is unfavorable.

Most important of all is the certainty that the general deathrate (that is, the mortality from all causes combined) in the industrial population of the United States and Canada, for 1927, will be the lowest ever reported. The most important factor in bringing this about was the approximate halving of the mortality from influenza as compared with last year, with an accompanying decline in the pneumonia deathrate.

Of almost as much importance is the fact that the deathrate from tuberculosis will reach a new low point in 1927. There will be shown a very decided gain over the former minimum, established in 1925, and the deathrate will fall to a point which would have been called visionary if anyone had ventured to predict it even a decade ago. In 1911, when the Metropolitan Life Insurance Company began to keep statistical records of the mortality among its Industrial policyholders, according to individual causes of death, the tuberculosis deathrate was 224.6 per 100,000 persons insured. The indications are that the rate for 1927 will be not much in excess of 90. If that figure is attained we shall have a 60 per cent. decline within a period of 17 years, one-half of which has been recorded within the present decade. If comparisons are restricted to white persons the decline is even more impressive.

But while the year will register a remarkable record from the standpoint of public health, it will show no progress in public safety. All fatal accidents, considered as a group, will show a deathrate which will not differ much from that for last year or, for that matter,

from any of the four years immediately preceding; but there have been more accidental drownings this year, and still another rise will be in evidence in the deathrate for automobile accidents. For the last named item the year-to-year record grows worse and worse. There will also be a considerable increase in the suicide deathrate in 1927 and a small rise in that for homicides.

All of these items are based on the cumulative deathrates of more than eighteen million Industrial policyholders of the Metropolitan Life Insurance Company, calculated up to December 3d.

LONGEVITY OF THE PRESIDENTS

Does the mental and physical strain of the office tend materially to shorten the lives of the presidents of the United States? Has this always been so or is it a development of the latter half of American history?

The presidents have been, by no means, a short-lived group. The average age at death of the twenty-seven who have died is 68.41 years; and our one living ex-president, Chief Justice TAFT, is 70. According to the life tables, the twenty-seven deceased presidents would have been expected to live 373.14 years after their inaugurations—they actually lived 458.46 years. The men who become this country's chief magistrates must, in the very nature of things, be a relatively long-lived group; for no one is elected to this highest office in the gift of the people until he has reached middle age, at least. As a matter of fact, the average age of our twenty-nine chief executives, at the time they were inaugurated, was 54.31 years. THEODORE ROOSEVELT, at 42, was the youngest. There were, in all, six (POLK, PIERCE, GRANT, GARFIELD, CLEVELAND and ROOSEVELT) who were between 40 and 50 when inaugurated. There were eighteen who assumed the office at ages from 50 to 60 years, and five (BUCHANAN, TAYLOR, WILLIAM HENRY HARRISON, JACKSON and JOHN ADAMS) were between 60 and 70. WILLIAM HENRY HARRISON was the oldest, at 68, followed by BUCHANAN at 65. It was to be expected that this group, made up of twenty-nine men of the highest type, who had lived on the average more than 54 years when they assumed office, would, on the average, survive to very close to the traditional threescore and ten years.

The above, however, is a composite of data for all the presidents; and it is entirely possible that the longevity of the earlier ones was different from that of the later ones. This point is at once suggested by the fact that the early incumbents were almost uniformly long-

lived men. If we divide the presidents into two groups, one beginning with WASHINGTON and ending with BUCHANAN (72 years), and the second beginning with LINCOLN and extending to the present (68 years), we shall find a very different picture.

The average age at death of the fifteen presidents of the earlier, or pre-Civil-War era, was 73.8 years, whereas that of the twelve deceased presidents of the post-Civil-War period was only 61.67 years. It becomes immediately apparent that it is the weight of the longer lives of the earlier chief executives which brings the average age at death for the entire group up to the figure we quoted, namely, 68.41 years. This becomes still more plainly evident when we compare for each president, the number of years actually lived after accession with the number of years he would have been expected to live in accordance with the expectation of life prevailing in his day.

In the earlier period, fifteen men were elected, or succeeded to the presidency. As nearly as can be gauged by the aid of the more reliable among the life tables, the combined expectation of life of these fifteen men, when they assumed the office, was 229.65 years. The actual number of years lived by these fifteen chief executives was 250.02, or 20.37 years *in excess of* the expected. On the average, then, these earlier incumbents lived 1.35 years *in excess of* their expectation of life at their presidential inaugurations.

Since 1861, we have had fourteen presidents, twelve of whom have died. We find that the combined expectation of life, at accession, of the twelve deceased chief executives, from LINCOLN to HARDING, was 228.81 years. These twelve men actually lived, however, only 123.12 years or 105.69 years *less* than their normal life expectancy at their ages of accession to the presidency. This group of twelve men, on the average, lived 8.81 years *less* than their normal expectation when they assumed the office. The combined expectation of life at accession, of the two living men who have filled the office was 40.96 years. If that expectation is fulfilled, the number of years lived by the fourteen presidents from LINCOLN to COOLIDGE, after accession, will be 164.08, or still 105.69 years below the expected; and the average life tenure of the fourteen, since they assumed office, would still be 7.55 years *below* the expected, as compared with 1.35 years *above* the expected for the fifteen men who were the country's chief magistrates prior to the Civil War.

Of the fifteen presidents during the era 1789–1861, nine lived to exceed their life expectations at accession; of the twelve *deceased* presidents since 1861, only a single one, GROVER CLEVELAND, lived

beyond his normal expectancy at his inauguration to the presidency: by 1.3 years. Three of the twelve presidents who have died since 1861, LINCOLN, GARFIELD and MCKINLEY, lost their lives through assassination. The presidency has in recent decades been a hazardous occupation; but even had these men lived out their life expectations the post-Civil-War presidents would still fall far short of living as long as the life tables allot to men of the ages at which they were inaugurated.

Just what light do these data throw upon the queries in our opening paragraph? It is obvious that any and all conclusions drawn must be made with some reservation. In the first place, the whole group considered comprises only twenty-nine lives, which is entirely too small a number for positive statistical analysis. But even with this small group, the facts are so clear-cut as to constitute at least strongly presumptive evidence that the increased wear-and-tear of the chief-magistracy has shortened the lives of our latter-day presidents.

There are, however, several items to be taken into account which preclude the unreserved conclusion that it was solely the strains and dangers of the chief magistracy which shortened the lives of these men. Who shall say whether the men of the pre-Civil-War period were, or were not, the sturdier group? Ability to pass a physical test has never been a prerequisite of the presidency—and if it had been, the exactitude of the more modern physical examination would have shown impairments, if any, during recent decades, which would have gone undetected even a half century ago, to say nothing of the earliest days of United States history. It may be that the earlier presidents withstood better the physical stresses of the office because they were stronger men; and that they survived the presidency longer, not because the office from 1789 to the Civil War entailed less mental stress than it now does, but because the presidents themselves were better able to withstand the demands of the chief magistracy on account of their greater vitality. Again, it would be difficult to adduce absolute proof that the shorter life spans of our post-Civil-War presidents are properly chargeable *solely* to the great and growing demands of the office itself upon the vitality of the incumbents. Practically every president was "in politics" for more or less time preceding his election as chief magistrate. The physical and mental strain of other offices which our presidents have filled—governorships, governor-generalships, vice-presidencies, sena-

torships, and Cabinet posts—may have had much to do with shortening their lives.

But, even when due allowance is made for these conditioning items, there is still unmistakable evidence that the earlier group lived considerably longer, on the average, after becoming president, than men of their day would be expected to live, whereas the later group died, on the average, nearly nine years earlier than men of their day would be expected to die. This is a very sharp contrast—so sharp, indeed, that it cannot be entirely explained away by the presumption of better physical equipment of the early presidents. The change has taken place, moreover, during a period when medical and sanitary science has been making pronounced advances, when the life expectation of the population in general has been increasing, and when influences operating for the prolongation of human life have been far more numerous and more effective than those tending toward its curtailment.

There is, to say the least, strong presumptive evidence that the duties of the presidency during the latter half of American history, have acted to produce a greater strain on human vitality than in the earlier era.

ORIGIN OF HAZARD IN FATAL ACCIDENTS

During 1926, more than ten thousand fatal accidents occurred among Industrial policyholders of the Metropolitan Life Insurance Company, and of this number, 47 per cent. were due to hazards arising in public places. With the extension of the use of the automobile, the so-called public accident has far outstripped every other form. The factor of occupational risk produced a sixth of the deaths and the hazards in and about the home were responsible for 23 per cent. of the total. Among adult men, one-third of the accidental deaths arose out of occupational risk; while among adult females, that same proportion arose from domestic hazards.

Public hazards loom especially large in the accident record of children under fifteen years of age. In this age division, 55 per cent. of the accident deaths were caused by circumstances arising in the use of streets and highways. Domestic hazards account for another third of the accidents among children. The table on page 6 shows the proportion of deaths from the several hazard factors identified in the experience of the Metropolitan Life Insurance Company during 1926.

TABLE 1

Percentage of Deaths Arising Out of Specified Type of Accident Hazard
Metropolitan Life Insurance Company.
Industrial Department, 1926.

TYPE OF HAZARD	ALL AGES			Under 15 Years	15 to 64 years	Males, 15 to 64 years	Females 15 to 64 years
	Both Sexes	Males	Females				
All fatal accidents...	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1. Industrial hazards	15.9	22.4	1.1	.2	25.2	33.0	1.8
2. Hazards in public places.....	46.8	48.6	42.7	55.2	44.9	44.3	46.8
Transportation...	10.6	10.4	11.1	6.7	13.7	12.4	17.8
Sports and recreation.....	3.0	3.8	1.2	3.7	3.1	3.7	1.2
Pedestrian use of streets.....	19.7	19.0	21.4	30.1	14.2	13.0	17.9
Use of public buildings.....	.9	.9	.9	.6	1.1	1.1	1.2
Other public hazards.....	12.6	14.6	8.0	14.2	12.7	14.0	8.8
3. Domestic hazards	22.9	16.0	38.7	31.5	16.1	10.1	34.1
4. Miscellaneous and not specified.	14.4	13.0	17.6	13.1	13.8	12.7	17.2
Number of deaths—Total for column...	10,854	7,568	3,286	3,320	6,515	4,885	1,630

When the accidental deaths are classified according to the "means of injury" and to the specific titles of the International List of Causes of Death, the following facts of interest ensue.

More than 14 per cent. of the occupational fatalities were due to railroad accidents, 13 per cent. were due to falls and 12 per cent. to machinery. More than 11 per cent. occurred in the operation of mines and quarries, and 8 per cent. were automobile accidents.

The domestic accident group shows that 29 per cent. of such deaths were due to burns, and more than a quarter were from falls in and about the home. Gas poisoning accounted for 18 per cent. of the domestic accidents.

In the public accident field, nearly 55 per cent. of the deaths arose out of motor vehicle hazards, 18 per cent. were drownings and 9 per cent. were railroad accidents. The subclasses of "public" hazards bring out important facts not hitherto known. For "transportation" accidents (persons being transported), 71 per cent. arose

TABLE 2

Percentage of Fatal Accidents According to Means of Injury for (a) Industrial, (b) Domestic and (c) Public Accidents

Metropolitan Life Insurance Company

Industrial Department, 1926

MEANS OF INJURY	Industrial accidents	Domestic accidents	PUBLIC ACCIDENTS						Miscellaneous and not specified
			Total	Transportation	Sports and recreation	Pedestrian use of streets	Use of public buildings	Others in this class	
Total fatal accidents	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Acute accidental poisoning †	.1	5.4	.1	—	—	—	2.1	.3	6.3
Conflagration	1.4	6.9	.1	.1	—	—	2.1	.1	.2
Accidental burns	5.1	29.0	1.0	—	.9	—	5.2	3.1	13.8
Accidental absorption of irrespirable or poisonous gases	1.3	18.1	.2	—	—	—	5.2	.2	2.4
Accidental drowning	5.5	1.0	18.0	.3	70.0	*	1.0	49.9	2.5
Traumatism by firearms	.1	1.9	.8	—	8.4	—	2.1	.9	11.2
Traumatism by fall	12.5	25.6	5.1	.3	10.8	5.2	44.8	4.8	16.2
Traumatism in mines and quarries	11.4	—	.2	.2	.3	.1	—	.3	.1
Traumatism by machines	12.2	.2	.3	.1	.3	*	7.3	.3	.6
Railroad accidents	14.4	—	9.2	15.6	—	11.8	—	2.4	.1
Street car accidents	1.7	—	4.3	5.7	—	6.3	3.1	1.2	.1
Automobile accidents	8.1	*	54.6	71.4	.6	74.4	—	26.2	.1
Injuries by other vehicles	4.0	*	2.1	5.1	.6	1.7	—	.7	.1
Other accidental injuries	22.1	11.9	4.1	1.1	8.0	.4	27.1	9.6	46.3
Number of deaths	1,731	2,481	5,082	1,151	323	2,142	96	1,370	1,560

*Less than .05 per cent. †Not including poisoning by food and by venomous animals.

out of motor vehicle injuries and 16 per cent. were railroad injuries. "Sports and recreation" showed 70 per cent. of the deaths under the "drowning" class and 11 per cent. were falls. That 74 per cent. of the "pedestrian" deaths were occasioned by motor vehicle injuries is not surprising, nor is the proportion of 12 per cent. which was ascribed to railroad injuries. Fatalities in public buildings were in 45 per cent. of the cases due to falls and in 7 per cent. of the total to machinery (elevators).

If a larger volume of deaths were available for analysis—say the accident deaths reported for the Death Registration Area—details of sex, age, locality and occupation could be given. These facts would enable the accident prevention movement to direct its efforts at specific hazards in specific locations. Registrars who are interested in the further development of accident information may obtain guidance as to basic definitions and classification practice by consulting the manual on public accident reporting, recently published by the National Safety Council, 108 East Ohio Street, Chicago, Illinois. Appendix A of this report contains the definitions of the several broad classes of accidents which were set out in the preceding pages of this article. It is very much hoped that registrars of vital statistics and health officers also will interest themselves in this effort and cooperate in their own localities to collect such data on accidents as will serve to direct the campaign of accident prevention more effectively.

HEALTH RECORD FOR NOVEMBER, 1927.

The deathrate in November among the Metropolitan Industrial policyholders was 8.5 per 1,000 which is identical with that of November of last year. In contrast with what has happened in the preceding months of this year, however, the 1927 November rate was a little above the average figure for that month in recent years. This has no special significance, as the deathrate is still low and is indicative of generally satisfactory health conditions in the Industrial populations of the United States and Canada.

Inspection of the mortality rates for the principal causes of death, as listed on page eleven, shows lower deathrates than prevailed in November a year ago for the diseases of major public health interest, with but a single exception.

Typhoid fever, as has been the case since the effects of the Montreal outbreak have ceased to be a factor in the deathrate, shows a considerable drop as compared with November, 1926. The mortality

from the group of four principal epidemic diseases of childhood, dropped 15 per cent., and each disease recorded a decline over November, 1926. In the case of diphtheria, November was the second month of 1927 to show improvement over the corresponding month of 1926. This is encouraging in view of the fact that in most of the nine earlier months the diphtheria deathrate was much higher this year. Lower rates than for November a year ago were recorded for tuberculosis, influenza, pneumonia and diarrhea. The exception is puerperal causes, which, after showing in the first half of 1927 marked improvement over 1926, have now for four successive months recorded higher rates than those in evidence last year. The indications are that this has been due entirely to increased mortality among insured colored women. Up to the end of September, at any rate, the puerperal deathrate among the whites was lower than that for the corresponding period of last year. Up to the week ended December 3d, the mortality from puerperal diseases as a class, in the entire Industrial Department, was a little lower than in 1926, although the contrary was true with respect to puerperal septicemia.

The mortality from organic heart disease, in November, was 7.7 per cent. higher than in the same month of 1926; the rates for cancer and cerebral hemorrhage were a little higher, while that for Bright's disease was a little lower.

The mortality from accidents and suicides, in November, was identical with last year's record for the same month while the figures for homicides and automobile fatalities increased a little.

The deathrate for the large cities of the United States, in November, was 12.0 per 1,000 as compared with 11.3 for October and 12.2 for November, 1926. Diphtheria, influenza, measles, scarlet fever and smallpox were more prevalent than in October but there was lower incidence of poliomyelitis and typhoid fever. Comparison with November, 1926, shows more cases throughout the country of diphtheria, poliomyelitis and smallpox, but fewer cases of influenza, measles, scarlet fever and typhoid fever.

Diphtheria case reports rose from 5,498 during the first three weeks of October to 7,691 during the same weeks of November. In Missouri case reports rose from 115 to 245, and in Florida from 49 to 106. Measles cases during these same weeks increased from 2,848 in October to 6,888 in November, with the more prominent increases in Michigan, North Carolina and Pennsylvania. Scarlet

fever cases increased from 5,420 in three October weeks to 9,363 in November, with Iowa, Pennsylvania and Texas showing the greatest rises.

Poliomyelitis was much less prevalent in November than in October, about half as many cases being reported. The outstanding declines were in Illinois, Kansas and New Jersey. Outbreaks were reported, nevertheless, from Idaho and Oregon.

Smallpox appears to be becoming more prominent, about three times as many cases having been reported in November as in October. In Indiana, case reports rose from 18 to 144; in Iowa from 21 to 114, and in Missouri from 19 to 209. At Pyrmont, a small Indiana town, it became necessary to close a school when 15 of the 50 pupils were found to have the disease. Outbreaks were also reported to have occurred in the vicinity of Merrillville, and in La Porte, Indiana, in Aurora, Illinois; on an island in the Columbia River, Oregon; and in East York Township, just outside of Toronto.

The following table shows the mortality among the Industrial policyholders for November, 1927, October, 1927, November, 1926, and the year 1926.

METROPOLITAN LIFE INSURANCE COMPANY

Deathrates* per 100,000 for Principal Causes, Premium-paying Business in Industrial Department (Annual Basis)

MONTHS OF NOVEMBER, 1927; OCTOBER, 1927, AND OF NOVEMBER, 1926

CAUSES OF DEATH	RATE PER 100,000 LIVES EXPOSED*			
	Nov. 1927	Oct. 1927	Nov. 1926	Year 1926
TOTAL—ALL CAUSES	849.8	769.7	850.2	945.6
Typhoid fever	4.3	3.7	6.2	4.2
Measles	1.0	.4	1.2	10.2
Scarlet fever	2.6	1.5	3.2	3.4
Whooping cough	3.9	4.1	6.1	9.6
Diphtheria	12.4	9.6	12.9	9.7
Influenza	11.0	6.5	13.5	31.1
Tuberculosis (All forms)	79.2	74.7	85.9	99.0
Tuberculosis of resp'y system	70.3	66.5	76.4	86.7
Cancer	73.5	71.6	72.2	73.7
Diabetes mellitus	16.2	15.0	16.1	16.7
Cerebral hemorrhage	53.2	49.0	50.6	55.6
Organic diseases of heart	135.2	112.0	125.5	134.3
Pneumonia (All forms)	66.0	46.3	71.6	98.2
Other respiratory diseases	14.9	12.6	11.8	13.0
Diarrhea and enteritis	23.1	36.6	27.7	29.8
Bright's disease (Chronic nephritis)	66.7	60.5	70.5	73.5
Puerperal state	14.5	12.6	11.1	15.3
Suicides	8.0	7.4	8.0	7.7
Homicides	7.6	6.8	7.3	7.0
Other external causes (excluding suicides and homicides)	62.4	62.4	62.6	62.3
Traumatism by automobiles	20.8	20.3	19.8	16.8
All other causes	194.2	176.4	186.1	191.0

*All figures include infants insured under one year of age.

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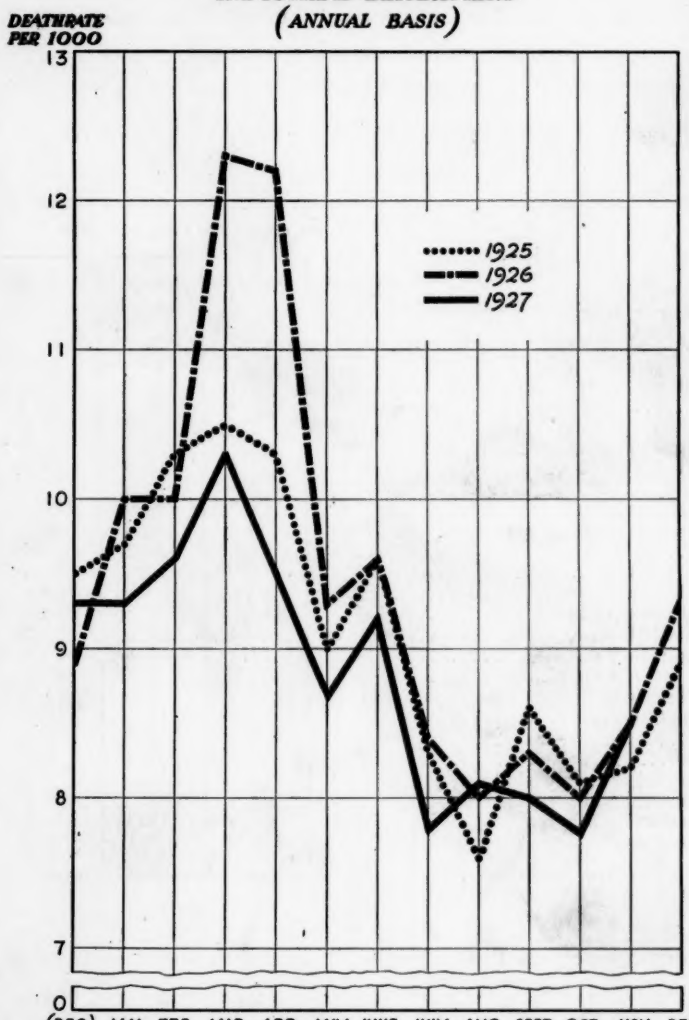
Deathrates from All Causes

METROPOLITAN LIFE INSURANCE CO.
INDUSTRIAL DEPARTMENT
(ANNUAL BASIS)



	(DEC.)	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1925		9.7	10.3	10.5	10.3	9.0	9.6	8.3	7.6	8.6	8.1	8.2	8.9
1926		10.0	10.0	12.3	12.2	9.3	9.6	8.4	8.0	8.3	8.0	8.5	9.3
1927		9.3	9.6	10.3	9.5	8.7	9.2	7.8	8.1	8.0	7.7	8.5	

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